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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,995	05/24/2006	Tatsuo Itoh	2006-0786A	1507

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EXAMINER	
PARDO, THUY N	

ART UNIT	PAPER NUMBER
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,995	ITOH ET AL.	
	Examiner	Art Unit	
	Thuy N. Pardo	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/24/06, 8/24/06, 5/24/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's Preliminary Amendment filed May 26, 2006 has been reviewed. Claims 1-19 are canceled, and claims 20-38 are added. This Office Action is made Non-Final.

Title

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 20-25 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi Patent No. 5,748,601.

Referring to claim 20, Takahashi teaches a confocal optical system aperture position detector [optical head including a pinhole member and a photodetector, ab], comprising:

a light source [11 of fig. 2];

first focusing means for focusing light exiting from the light source onto a sample [12 of fig. 7];

second focusing means for focusing light having passed through the sample or light reflected on the sample [14 of fig. 2];

an aperture provided at a focusing point position of the second focusing means [pinhole, 15 of fig. 2]; and

a detector that receives light having passed by the aperture at plural light reception regions [photodetector, 16 of fig. 2].

Referring to claim 21, Takahashi teaches the invention substantially as claimed as specified in claim 1 above, wherein the light reception regions of the detector are divided so as to be capable of detecting a 2-D position of light that passes by the aperture [FIGS. 3A and 3B show two-dimensional profiles among three dimensional Fourier transforms of three dimensional light intensity distributions in the vicinity of focus at the photodetector 16 shown in FIG. 1 and FIG. 2, col. 4, lines 63-66].

Referring to claim 22, Takahashi teaches the invention substantially as claimed as specified in claim 1 above, wherein the aperture has a pin hole [a pinhole member having pinholes, ab], and the detector has four divided light reception regions [The light receiving section provided in the photodetector 16 for the zero-order diffracted beam is divided into four segments, col. 4, lines 25-28].

Referring to claim 23, Takahashi teaches the invention substantially as claimed as specified in claim 1 above, wherein a material of the aperture is an electrically good conductor [inherent in the system, col. 1, lines 12-30].

Referring to claim 24, Takahashi teaches the invention substantially as claimed as specified in claim 1 above, wherein the first focusing means and the second focusing means are one and the same [12 and 14 of fig. 2].

Referring to claim 25, Takahashi teaches the invention substantially as claimed as specified in claim 1 above. Takahashi further teaches:

driving means for driving an optical member, which is any one of the light source, the second focusing means, and the aperture, within a plane perpendicular to a local optical axis accompanying the optical member [the Z-axis represents the direction of the depth of focus of the objective lens 14, and the Z-axis represents a direction perpendicular to Z-axis these represent spatial frequencies in the X- and Z-axis directions, col. 4, lines 66 to col. 5, lines 6]; and

control means for controlling the driving means [a controller associated with the optical disk drive, col. 6, lines 13-14] on the basis of a quantity of light received at each of the plural light reception regions of the detector [the detected signal S1 from two of the light receiving sections of the photodetector 16 for the positive and negative first-order diffracted beams, the tracking error detecting section 17 subjects these detected signals to a subtraction operation so as to generate tracking error signal G1, col. 4, lines 3-15].

Referring to claim 27, all limitations of this claim have been addressed in the analysis above, and this claim is rejected on that basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 26 and 28-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi Patent No. 5,748,601 in view of Ando et al. (Hereinafter "Ando") US Patent No. 6.392,977.

Referring to claim 26, Takahashi teaches the invention substantially as claimed as specified in claim 1 above, with the exception of a second driving means for driving an optical member, which is any one of the light source, the second focusing means, and the aperture, in a direction parallel to a local optical axis accompanying the optical member; and the control means controls the first and second driving means on the basis of the quantity of light received at each of the plural light reception regions of the detector. Ando teaches a second driving means for driving an optical member, which is any one of the light source, the second focusing means, and the aperture, in a direction parallel to a local optical axis accompanying the optical member [the

second light beam L2 will be parallel to the optical axis of the objective lens, col. 5, lines 8-14]; and the control means controls the first and second driving means on the basis of the quantity of light received at each of the plural light reception regions of the detector [The first light receiving section 16 has its light receiving surface divided in a cruciform shape into four sub-sections and received light quantities for generating tracking error signals of the photodetector, col. 7, lines 62 to col. 8, lines 44]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to add the feature of Ando to the system of Takahashi as an essential means to allow for correct recording or reproduction of information signals for any optical discs having different recording densities.

Referring to claim 28, all limitations of this claims have been addressed in the analysis of claim 26 above, and this claim is rejected on that basis.

Referring to claim 29, Takahashi and Ando teach the invention substantially as claimed as specified in claim 26 above, Takahashi further teaches focusing light exiting from the light source onto an intended information layer in an optical recording medium formed by layering plural information layers [multi-layer structure, col. 2, lines 1-5], and Ando further teaches the second focusing means, and the aperture, within a plane perpendicular to a local optical axis accompanying the optical member [a signal recording layer formed by a perpendicular recording film, col. 4, lines 35-51].

Referring to claim 30, Takahashi and Ando teach the invention substantially as claimed as specified in claim 26 above, Takahashi further teaches that the control means controls the first driving means in addition to the second driving means, and controls the first driving means according to a high frequency signal from the detector while controlling the second driving means according to a low frequency signal from the detector [col. 4, lines 67 to col. 5, lines 6].

Referring to claims 31-33 and 36, all limitations of these claims have been addressed in the analysis of claims 20-24 above, and these claims are rejected on that basis.

Referring to claims 34, 35, 37 and 38, all limitations of these claims have been addressed in the analysis of claims 26, 29 and 30 above, and these claims are rejected on that basis.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy N. Pardo whose telephone number is 571-272-4082. The examiner can normally be reached on Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thuy N. Pardo/
Primary Examiner, Art Unit 2627